ELSC conference #6 - Information, Control, and Learning - The Ingredients of Intelligent Behavior to be held in Jerusalem, on September 26-28, 2016.
Information, Control, and Learning - The Ingredients of Intelligent Behavior

September 26-28, 2016
The Brindell and Milton Gottlieb Auditorium
School of Computer Science and Engineering
Edmond J. Safra Campus
The Hebrew University of Jerusalem

Invited Speakers:

- Nihat Ay, Max Planck Institute for Mathematics in the Sciences
- Naama Brenner, Technion - Israel Institute of Technology
- Andrea Cavagna, ISC - Institute of Complex Systems
- Kenji Doya, Okinawa Institute of Science and Technology
- Amir Globerson, Tel Aviv University
- Bert Kappen, Radboud University
- Máté Lengyel, University of Cambridge
- Shie Mannor, Technion - Israel Institute of Technology
- Ron Meir, Technion - Israel Institute of Technology
- Sanjoy Mitra, Massachusetts Institute of Technology
- Daniel Polani, University of Hertfordshire
- Alex Pouget, University of Geneva
- Yifat Prut, The Hebrew University
- Reza Shadmehr, Johns Hopkins University
- Shai Shalev-Shwartz, The Hebrew University
- Tatyana Sharpee, Salk Institute for Biological Studies
- Satinder Singh, University of Michigan
- Stefano Soatto, University of California, Los Angeles
- Fritz Sommer, University of California, Berkeley
- Susanne Still, University of Hawaii
- Takashi Tanaka, KTH Royal Institute of Technology
- Daniel Wolpert, University of Cambridge

Organizing Committee:

- Naftali Tishby, The Hebrew University
- Israel Nelken, The Hebrew University
- Yair Weiss, The Hebrew University

For further details and registration, visit our website: http://www.elsc.huji.ac.il/elsc-conference
The Synergy between Information and Control

Sanjoy Mitter ? Massachusetts Institute of Technology, USA -

Information and Entropy Flow in Estimation and Control

Susanne Still [Online video talk] ? University of Hawaii, USA -

Optimal Information Processing: Dissipation and Irrelevant Information

Bert Kappen ? Radboud University, Netherlands and University College London, UK

Integrating control, inference and learning. Is it what the brain does?

Session 2: Sensorimotor Loops and Decision Making

Chairs: Israel Nelken & Naama Brenner

Kenji Doya ? Okinawa Institute of Science and Technology, Japan -

Neural Circuit Mechanisms of Mental Simulation

Daniel Wolpert ? University of Cambridge, UK -

Sensorimotor decisions

Yifat Prut ? The Hebrew University of Jerusalem -

Inhibitory control of motor timing

Fritz Sommer ? University of California, Berkeley, USA -

Information-theory based policies for exploratory learning in sensorimotor loops

Session 3: Cognition and Embodiment

Chair: Ron Meir

Andrea Cavagna ? Institute for Complex System, Italy -

Information transfer and behavioral inertia in starling flocks

Shai Shalev-Shwartz ? The Hebrew University of Jerusalem & Mobileye -

Deep Reinforcement Learning for Driving Policy

Nihat Ay - Max Planck Institute for Mathematics in the Science, Germany

Mathematical Aspects of Embodied Intelligence

Daniel Polani ? University of Hertfordshire, UK -

Informational Drivers of Cognition

Session 4: Neural coding and representation

Chair: Yifat Prut
Reza Shadmehr - Johns Hopkins University -

Encoding of action by the Purkinje cells of the cerebellum

Ron Meir - Technion - Israel Institute of Technology, Israel -

Optimal Neural Codes for Estimation and Control

Máté Lengyel - University of Cambridge, UK -

Neural variability and sampling-based probabilistic representations in the visual cortex

Tatyana Sharpee - Salk Institute for Biological Studies, USA -

How Invariant feature selectivity is achieved in cortex

Session 5: Learning to decide and behave

Chair: Amir Globerson

Alexandre Pouget - University of Geneva, Switzerland -

Optimal policies for value-based decision making

Satinde Singh Baveja - University of Michigan, USA -

Rethinking State Action and Reward in Reinforcement Learning

Shie Mannor - Technion - Israel Institute of Technology -

Regularization and Robustness in Reinforcement Learning

Takashi Tanaka - KTH Royal Institute of Technology, Sweden -

LQG Control with Minimum Directed Information: A Semidefinite Programming Approach

Session 6: Predictions, Adaptation and Planning

Chair: Shie Mannor

Naama Brenner - Technion - Israel Institute of Technology, Israel -

Exploratory adaptation in random networks

Amir Globerson - Tel Aviv University, Israel -

Variational Conditional Probabilities

Israel Nelken - The Hebrew University of Jerusalem, Israel -

Information-theoretic bounds and brains: prediction and planning

Talk abstracts (PDF)

Directions to the conference venue click here
For questions and comments please contact Alona Shani-Narkiss: alona.narkiss@elsc.huji.ac.il

Video lectures channel on YouTube

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